GULF COUNTY PROPOSED WATER SUPPLY PLAN

Purpose: Evaluate Gulf County water resources and facilities per the requirements F.S. 156.3177(6)(a) that was mandated by the 2005 Florida Legislature under Senate Bill 360.

Issues: Gulf County has identified three major issues as they apply to water supply planning and will support each with amendments to the Gulf County Comprehensive Plan.

Issue 1: Protect Gulf County's water resources by addressing the threat identified in the January 2007, Regional Water Supply Plan for Region V by the NWFWMD.

Issue 2: Planning for utility based potable water supply facilities that will be sufficient to meet the potable water demands of the County through 2020.

Issue 3: Planning for individual based potable water supply that will be sufficient to meet the demands of unincorporated Gulf County through 2020.

Issue 1: Data and analysis of water resources

In the 1998 District's Water Supply Assessment identified coastal sections of Gulf and Franklin Counties (Region V) as Areas of Special Concern (ASCs) for water supply with the main concern being the potential for saltwater intrusion into the upper portion of the Floridan Aquifer from the decline of potentiometric surface from groundwater withdrawals.[1] In January of 2007, the Northwest Florida Water Management District (NWFWMD) adopted the Regional Water Supply Plan for Region V with its objective "to develop sustainable and cost effective water supplies that will meet the water supply needs of the region at least through 2025, without causing significant harm to water and related resources."[2] In the plan's summary and recommendations, the plan stated "Further development of groundwater supplies from the Floridan Aquifer in the coastal area of Region V threaten water resources and public water supplies with saltwater intrusion. The preferred alternative sources of new water supplies are inland groundwater using the Floridan Aquifer and surface water."[3] The plan goes further in advancing alternative water sources by stating that "Alternative surface water supplies for the City of Port St. Joe and Gulf County can be provided by the Gulf County Fresh Water Supply Canal. This alternative supply source may be designed to produce up to 6.0 Mgal/d and will require additional work to provide adequate capacity, treatment, storage, and distribution facilities to meet future demands."[4] The above will be premise of our data and analysis for water resource protection.

The Gulf County Board of County Commissioners do not operate any water supply systems. They do have some distribution systems in the South end that were constructed by bonding and funded through the service area water bills. These systems are operated and maintained by the City of Port St. Joe and negotiations are under way for the City to assume ownership of the system including bond payoff. This is ~~part of an~~ a stipulation in the annexation agreement between the County and City of Port St. Joe for them to annex the WindMark Beach development. Also part of this agreement is the expansion of potable water to Overstreet south of the Intracoastal Canal. This action will place all of coastal Gulf County South of the Intracoastal Canal, except for a few remote sites, from the Franklin County line to the Bay County line, including White City, on permitted potable water supply system. This action will enhance the Water Districts goal of reducing aquifer withdraws and promote a safer and higher level of water quality than most individual wells can provide. The area south of the city limits of Port St. Joe to the Franklin County line along CR30A is serviced by Lighthouse Utilities and the remainder of the area is serviced by the City of Port St. Joe. This action impacts the majority of the County's population and developed area.[5]

As stated, the City of Port St. Joe and Lighthouse Utilities are the only water suppliers for coastal Gulf County. Both systems use permitted wells to withdraw from the Floridan Aquifer as their water supply source. The City of Port St. Joe is nearing completion of their water plant conversion project to begin using the Gulf County Fresh Water Canal as their primary water

[1] Regional Water Supply Plan; 1/2007; NWFWMD; p. i,1st ¶
[2] Regional Water Supply Plan; 1/2007; NWFWMD; p. i,1st ¶
[3] Regional Water Supply Plan; 1/2007; NWFWMD; p.18,11.0
[4] Regional Water Supply Plan; 1/2007; NWFWMD; p.18,11.0
[5] Gulf County 2007 EAR; II-3, 2nd ¶

supply resource. The Fresh Water Canal was initially permitted to furnish approximately 35 million gallons per day from the Chipola River to the former paper company and is projected to initially furnish 6 million gallons per day to the City of Port St. Joe as an alternative water supply[1]. The true limitation of the canal as a water supply resource is limited by permitted withdrawal from the Chipola River and the treatment capacity of the water plant and not by the canal's structural design. The City is also designing the system to be upgraded to process 12 million gallons per day which should elevate the system to regional water supply. The alternative water supply goal by the NWFWMD for Gulf County would be advanced even more if Lighthouse Utilities begins to purchase bulk water from the City. Lighthouse Utilities has an emergency water connection already in place with Port St. Joe.

When considering water supply capacity, in 2000, Gulf County consumed 1.47 million gallons per day of water while serving a population of 10,338.[2] If this consumption rate (142 per capita) were projected to the 6 million gallons per day, the rate would support a population of 42,000. The population projection by BEBR for 2030 is 20,008, well within the capacity of the canal.[3] It must be pointed out that this assumption does not account for the City of Wewahitchka or Lighthouse Utilities water supply capacity which would allow for a higher population due to additional water capacity for the County. If the City of Port St. Joe continues to upgrade their capacity to 12 million gallons, the system would support an 84,500 population or 8 times over the total county water withdraw for 2000 of 1.47 million gallons per day.

With no water supply facility under their control, the County has limited opportunities for alternative water supply. The most obvious and possibly the only opportunity is the Gulf County Fresh Water Canal. The canal is approximately 16.7 miles long with 15.9 miles of the canal located in unincorporated Gulf County. The County has amended its Comprehensive Plan to include a 600 foot buffer along the canal. The canal buffer in conjunction with water supply concurrency is about all the County can directly influence. The only other viable avenue is supporting water suppliers in seeking permits and grants for unincorporated areas of the County.

[1]Regional Water Supply Plan; 1/2007; NWFWMD; p.18,11.0
[2] Florida County Perspective 2006; BEBR; p.19
[3] Florida Population Studies 2005-2030; BEBR; p.28

Issue 2: Data and Analysis for Utility Water Supply Facilities

Gulf County has five (5) viable utility water suppliers. Two of the suppliers are State correctional institutions and do not serve the general public. For obvious reasons, the County has no involvement with daily operation of the facilities. Both facilities are permitted, operated and maintained by State agencies and should abide by their own internal concurrency. Their water withdrawals are accounted for by the NWFWMD in determining the water consumption permits for the whole county. The other three suppliers are the City of Port St. Joe, City of Wewahitchka and Lighthouse Utilities as the lone private provider. Of the five facilities, only the City of Port St. Joe and Lighthouse Utilities operate within the Areas of Special Concern (ASCs). As local governments, the City of Port St. Joe and City of Wewahitchka are required to submit a water supply component to their respective comprehensive plan. Their plans may need to be incorporated into the County Comprehensive Plan by reference or as applicable.
The following is an analysis for each of the identified water supply facilities for the City of Port St. Joe, City of Wewahitchka and Lighthouse Utilities.

City of Port St. Joe Facility:

The City is currently in the process of converting its raw water supply from wells to surface water as part of an alternative water supply project with the NWFWMD. This change in raw water supply will allow the City to withdraw 6 MGPD from the Chipola River via the Gulf County Fresh Water Canal. In conjunction with the water supply change, the City is expanding their existing water service to new unincorporated communities that are near or south of the Intracoastal Canal. This expanded service area and the area served by Lighthouse Utilities will make available potable water service to 99.5% of the population south of the Intracoastal Canal.

Table A illustrates the population, demand, capacity and surplus water projection though the 2020 planning period adopted by the County.

Table A

City of Port St. Joe	**2006**	**2010**	**2015**	**2020**
Total County Population[1]	16,509	17,372	18,110	18,802
Population Served	7,478	7,866	8,351	8,836
Avg. Daily Demand (GPD)[2]	1,120,000	1,179,900	1,252,650	1,325,400
Demand per Capita (GPD)[2]	150	150	150	150
Available Facility Capacity (GPD)[2]	2,000,000	6,000,000	6,000,000	12,000,000
Facility Capacity Surplus (Deficit)[2]	880,000	4,820,100	4,747,350	10,674,600
Permitted Amount (GPD Annual Avg.)[2]	2,720,000	6,000,000	6,000,000	12,000,000
Permitted Surplus (Deficit)	1,600,000	4,820,100	4,474,350	10,674,600

GPD = Gallons Per Day
[1] Calculated by subtracting Average Daily Demand from Available Facility Capacity
[2] Calculated by subtracting Average Daily Demand from Permitted Amount

[1] BEBR
[2] Data provided by facility consultant engineers

As shown in Table A, the City of Port St. Joe is well postured for expansion through 2020. The county is working with the City of Port St. Joe in their expansion of water and sewer to unincorporated communities along and south of the Intracoastal Canal. The infrastructure is being fund by CDBG, tap fees and the WindMark Annexation Agreement.

Lighthouse Utilities Facility:

Lighthouse Utilities is a private water supplier that serves the area south of Port St. Joe which includes the SR 30A, SR 30E, CR 30A and CR 30B development corridors. The infrastructure is privately funded by Lighthouse Utilities, developments or individual owners.

Table B illustrates the population, demand, capacity and surplus water projection though the 2020 planning period to be adopted by the County.

Table B

Lighthouse Utilities	**2006**	**2010**	**2015**	**2020**
Total County Population[1]	16,509	17,372	18,110	18,802
Population Served[2]	3,123	3,287	3,492	3,697
Avg. Daily Demand (GPD)[2]	371,083	391,153	415,548	439,943
Demand per Capita (GPD)[2]	119	119	119	119
Available Facility Capacity (GPD)[2]	1,080,000	1,322,000	1,322,000	1,322,000
Facility Capacity Surplus (Deficit)[2]	708,917	930,847	906,452	882,057
Permitted Amount (GPD Annual Avg.)[2]	451,000	451,000	451,000	451,000
Permitted Surplus (Deficit)[2]	79,917	59,847	35,452	11,057

GPD = Gallons Per Day
[1] Calculated by subtracting Average Daily Demand from Available Facility Capacity
[2] Calculated by subtracting Average Daily Demand from Permitted Amount

Table B shows no deficit, but surplus will be limited if the permitted amount is not increased to meet the capacity of the facility.

City of Wewahitchka Facility:

The City of Wewahitchka is has expanded the City water service area to a five mile radius. The service area expansion will include the Hwy 71, Hwy 22 and Stonemill Creek area which is one of the fastest development areas in the County. The City is in the process of constructing a new satellite water plant with two water supply wells on Stonemill Creek Road. This will be catalyst for additional water infrastructure expansion.

Table C illustrates the population, demand, capacity and surplus water projection though the 2020 planning period adopted by the County.

[1] BEBR
[2] Data provided by facility consultant engineers

Table C

City of Wewahitchka* City of Wewahitchka & Stone Mil Creek**	**2006***	**2010****	**2015****	**2020****
Total County Population[1]	16,509	17,372	18,110	18,802
Population Served[2]	1,893	3,444	3,798	4,187
Avg. Daily Demand (GPD)[2]	189,300	344,400	379,800	418,900
Demand per Capita (GPD)[2]	100	100	100	100
Available Facility Capacity (GPD)[2]	510,000	1,021,250	1,021,250	1,021,250
Facility Capacity Surplus (Deficit)[2]	320,700	676,850	641,450	602,350
Permitted Amount (GPD Annual Avg.)[2]	230,000	434,500	434,500	434,500
Permitted Surplus (Deficit)[2]	40,700	90,100	54,700	15,600

GPD = Gallons Per Day
[1] Calculated by subtracting Average Daily Demand from Available Facility Capacity
[2] Calculated by subtracting Average Daily Demand from Permitted Amount

Table C shows no deficit, but surplus will be limited if the permitted amount is not increased to meet the capacity of the facility.

[1] BEBR
[2] Data provided by facility consultant engineers

Issue 3: Data and Analysis for Individual Based Water Supply

Gulf County is considered a rural county that is dominated by agricultural land use. The Agricultural Land Use category as designated in the Gulf County Comprehensive Plan makes up 75% of the county land. Even rural lands that are designated Residential or Mixed Commercial/Residential are limited in development densities. The maximum rural density for well and septic service is 2 units per acre and this applies only to the Residential and Mixed Commercial/Residential land use categories. The maximum Agricultural density is 1 unit per 2.5 acres and the medium density is 1 unit per 15 acres regardless of which type of water or sewer service. It is estimated that 23% of the population is served by individual well service. If 142 gallon per day per capita is used, an additional .54 million gallons of water is consumed and all of it outside the ASCs. Many of these wells are shallow and do not reach the Floridan Aquifer. It appears that the impacts from individual wells is minimum, however, protection of the individual well resources is vital. Gulf County will work with the NWFWMD to insure rural subdivisions are capable of receiving well permits for each lot plated. As rural areas become more developed, the increased customer base allows the infrastructure for water distribution to be more economical and worth the investment by a water supplier. This is what happened in the rapid growth area of Stonemill Creek area as the City of Wewahitchka is expanding its service area when development in the area made expansion less of a financial risk.